

AMENDMENTS TO THE CLAIMS

1. (currently amended) A method for providing a dynamic continual improvement educational environment for a-users, the method comprising:

using a user interface and a design technique to designing an adaptive educational path having a sequence of dynamic educational content for presentation to the one or more users, wherein the design technique automatically produces computer readable instructions relating to the dynamic educational content, and wherein concepts-aspects of the educational content are graphically-linked-associated in a relational order, the association capable of being maintained when an aspect of the educational content is moved;

providing the adaptive educational path for selectively implementing the presentation of the educational content to the a user, wherein the presentation comprises an adaptive sequencing of the dynamic educational content for the user, and wherein the adaptive sequencing is ordered based upon is automatically adapted to a characteristic of the user; and

providing the adaptive educational path for iteratively implementing-presenting at least a portion of the presentation to the user over an extended period of time to maintain the user's understanding of the educational content.

2. (original) A method as recited in claim 1, wherein the characteristic is at least one of:

- (i) a learning pace of the user;
- (ii) a background of the user;

- (iii) a style of learning of the user; and
- (iv) a learning progress of the user.

3. (currently amended) A method as recited in claim 2, wherein ~~the step for~~ said iteratively ~~implementing~~ presenting at least a portion of the presentation to the user over an extended period of time comprises a step for providing a systematic spaced review of the educational content to the user based on the user's performance.

4. (currently amended) A method as recited in claim 3, wherein the systematic spaced review is further based on dynamic parameters of a minimum delay and a maximum delay of the review, wherein the dynamic parameters are selectively adjustable by an instructional designer.

5. (original) A method as recited in claim 3, wherein the user's performance corresponds to at least one of (i) the user's accuracy and (ii) the user's speed in understanding the educational content.

6. (original) A method as recited in claim 3, wherein the systematic spaced review transitions the user's understanding of the educational content from the user's short-term memory to the user's long-term memory.

7. (cancelled)

8. (currently amended) A method as recited in claim ~~7~~1, wherein the design technique comprises at least one of:

- (i) an object oriented technique that graphically relates components of the educational content; and
- (ii) a drag-and-drop technique that graphically relates components of the educational content.

9. (currently amended) A method as recited in claim ~~2~~8, wherein ~~the step for designing dynamic educational content for presentation to the user~~ said association comprises linking available components of the educational content based on specific properties of the available components.

10. (currently amended) A method as recited in claim 9, ~~wherein the step for designing dynamic educational content for presentation to the user further comprises~~ comprising selectively modifying properties of the available components.

11. (cancelled)

12. (currently amended) A method as recited in claim ~~2~~1, wherein the step for using an interface and a design technique ~~designing dynamic educational content for presentation to the user~~ comprises:

- designing a collaborative activity among users; and
- dynamically linking roles of the users in the collaborative activity.

13. (cancelled)

14. (currently amended) A method as recited in claim ~~13~~ 1, wherein the adaptive educational path provides flow of activities ~~depicts an order for which concepts are to be learned by the user within the a lesson.~~

15. (currently amended) A method as recited in claim ~~13~~ 14, wherein the ~~flow of activities~~ adaptive educational path comprises at least one of:

- (i) a linear sequence of activities; and
- (ii) an adaptive sequence of activities.

16. (currently amended) A method as recited in claim ~~13~~ 14, wherein the ~~flow of activities~~ adaptive educational path includes one or more stage markers that delineate meaningful stages of learning.

17. (currently amended) A method as recited in claim ~~13~~ 1, wherein the step for using an interface and a design technique to design an adaptive educational path ~~developing a flow of activities for selective presentation to the user~~ comprises automatically snapping activity icons to a grid.

18. (currently amended) A method as recited in claim 17, wherein the step for using an interface and a design technique to design an adaptive educational path ~~developing a flow of~~

~~activities for selective presentation to the user~~ further comprises selectively organizing the activity icons to develop ~~the~~ a flow of activities.

19. (original) A method as recited in claim 18, wherein movement of an activity icon within the flow of activities includes maintaining relationships with other activities branching the activity icon that is being moved.

20. (currently amended) A method as recited in claim ~~13~~ 1, wherein the ~~flow of activities~~ adaptive educational path includes a systematic spaced review of ~~the~~ an educational lesson.

21. (currently amended) A method as recited in claim 2, wherein the step for using an interface and a design technique to design an adaptive educational path ~~designing dynamic educational content for presentation to the user~~ includes designing an environment that includes a look and feel that is customized to a particular audience.

22. (currently amended) A method as recited in claim ~~2~~ 1, further comprising designing a least a portion of said dynamic education content comprising ~~wherein the step for designing dynamic educational content for presentation to the user comprises~~ at least one of:

selectively cutting an audio file into smaller files that are named and preserved;

modifying a start position of a selected audio file;

modifying an end position of a selected audio file;

graphically associating educational concept types with relationship types and properties;

graphically identifying potential presentation problems corresponding to the educational content;

automatically adding new educational content from outside resources;

selectively tagging educational portions of a particular lesson to illustrate to the user different contextual uses of the educational portions; and

utilizing a repository of media for designing the educational content.

23. (currently amended) A method as recited in claim 21, wherein the step for using an interface and a design technique to design an adaptive educational path~~designing dynamic educational content~~ comprises automatically analyzing data to identify said associations~~relationships between components of the educational content~~.

24. (currently amended) A method as recited in claim 21, ~~wherein the step for~~further comprising designing dynamic educational content for presentation ~~to the user comprises comprising:~~

executing automated tests on components to ensure that the components function as designed; and

diagnosing any errors in the components.

25. (currently amended) A method as recited in claim 21, wherein the step for using an interface and a design technique to design an adaptive educational path~~designing dynamic~~

~~educational content for presentation to the user~~ does not require that the designing be performed at the code level by a computer programmer.

26. (currently amended) A method as recited in claim 24, wherein the step for designing dynamic educational content for presentation ~~selectively implementing the presentation of the educational content to the user~~ comprises detecting any potential problems ~~with the implementation~~ in the designed content for repair.

27. (currently amended) A method as recited in claim 21, wherein the step for providing the adaptive educational path for presentation ~~selectively implementing the presentation of the educational content to the user~~ comprises:

automatically identifying ~~the~~ a current activity presented to the user;

keeping track of ~~the~~ a learning progress of the user; and

automatically and adaptively determining which activity to present next to the user.

28. (currently amended) A method as recited in claim 21, wherein the step for providing the adaptive educational path for presentation ~~selectively implementing the presentation of the educational content to the user~~ comprises automatically evaluating activity branching conditions upon completion of an activity for branches emanating from the completed activity.

29. (currently amended) A method as recited in claim 21, wherein the step for

~~providing the adaptive educational path for presentation~~~~selectively implementing the presentation of the educational content to the user~~ comprises:

automatically monitoring the educational progress of the user;

if an educational lesson is not understood by the user, performing at least one of:

- (i) selectively repeating at least a portion of an adaptive path related to the educational lesson; and
- (ii) presenting a related activity to assist the user in understanding the educational lesson; and

if the educational lesson is understood by the user, following another adaptive path that relates to a subsequent lesson.

30. (currently amended) A method as recited in claim ~~2~~1, wherein the step for ~~providing the adaptive educational path for presentation~~~~selectively implementing the presentation of the educational content to the user~~ comprises automatically providing positive feedback to the user as aspects of the educational content are learned.

31. (currently amended) A method as recited in claim ~~2~~1, further comprising tracking the progress of the user and generating a report relating to the user's progress.

32. (currently amended) A method as recited in claim ~~2~~1, further comprising monitoring implementation fidelity to perform at least one of:

- (i) ensuring that ~~the implementation of the presentation~~ the presentation is performed as intended by the designer ~~of the dynamic educational content~~ and that the results of the presentation are reliable;
- (ii) measuring the degree to which teachers, tutors and students implement the presentation as designed and the degree to which learners, the tutors and administrators who interact with and contribute to any learning experience are encouraged to comply to system-determined guidelines; and
- (iii) automatically reporting results of the implementation fidelity.

33. (currently amended) A method as recited in claim ~~2~~ 1, wherein the step for providing the adaptive educational path for presentation further comprising ~~comprises~~ evaluating the learning of the educational content.

34. (currently amended) A method as recited in claim 33, wherein the step for ~~selectively implementing the presentation~~ providing the adaptive educational path for iteratively presenting a least a portion of the presentation further comprises modifying the frequency for presenting the educational content based on the learning of the educational content.

35. (original) A method as recited in claim 33, wherein the step for evaluating the learning of the educational content by the user includes automatically conducting experiments on the user to identify an optimal instructional setting for the user.

36. (original) A method as recited in claim 33, wherein the step for evaluating the

learning of the educational content includes automatically analyzing experimental data obtained.

37. (currently amended) A method as recited in claim 2_1, wherein the relational order is an hierarchical order.

38. (currently amended) A method as recited in claim 2_1, further comprising a step for tracking information corresponding to the user.

39. (original) A method as recited in claim 38, wherein the step for tracking information includes a step for allowing a designer to determine the type of information that is to be tracked.

40. (original) A method as recited in claim 38, wherein the information tracked includes at least one of:

- (i) a period of time;
- (ii) a number of questions;
- (iii) a number of answers;
- (iv) a number of times the user's voice was recorded;
- (v) information accessed;
- (vi) a number of user interactions;
- (vii) user interactions;
- (viii) audio recording of the user;
- (ix) text from the user;

- (x) a conversation between multiple users;
- (xi) a conversation between a computer device and the user;
- (xii) a response to content presented;
- (xiii) graphical data created by the user; and
- (xiv) any input received from the user.

41. (currently amended) A method as recited in claim ~~2~~1, further comprising designing dynamic educational content for presentation ~~wherein at least a portion of the instruction of the dynamic educational content is designed~~ using at least one of:

- (i) component modules, wherein the component modules are reusable for designing other dynamic educational content, thereby causing a process of designing dynamic educational content for presentation to be efficient; and
- (ii) dynamic activities, wherein the dynamic activities are reusable for designing other dynamic educational content, thereby causing a process of designing dynamic educational content for presentation to be efficient.

42. (currently amended) A method as recited in claim ~~2~~1, wherein the step for using an interface and a design technique to design an adaptive educational path ~~designing dynamic educational content~~ includes a step for allowing at least a portion of the content to be selectively supported by any of a number of output layout formats.

43. (currently amended) A method as recited in claim ~~2~~1, further comprising a step for selectively and instantly changing a look and feel of the presentation.

44. (original) A method as recited in claim 2, further comprising a step for grouping experimental data to determine information relating to one or more groups to which the user belongs.

45. (currently amended) A method as recited in claim ~~2~~ 44, wherein the step for ~~providing the adaptive educational path for presentation selectively implementing the presentation~~ includes implementing the at least a portion of the presentation based on the user's similarity to other users for which optimum settings have been established.

46. (currently amended) A method as recited in claim ~~2~~ 1, wherein the step for ~~providing the adaptive educational path for presentation implementing the presentation~~ includes a step for conducting experiments using an experimental unit that is at least one of:

- (i) a particular concept;
- (ii) a particular learner type; and
- (iii) a particular learner.

47. (original) A method as recited in claim 2, further comprising a step for automatically generating a report relating to at least one of:

- (i) the presentation; and
- (ii) the user's performance.

48. (currently amended) A method as recited in claim ~~2~~ 1, wherein the step for

~~providing the adaptive educational path for presentation~~~~implementing the presentation~~ includes selectively prioritizing aspects of the presentation, wherein the aspects are at least one of:

- (i) activities;
- (ii) lessons; and
- (iii) tasks.

49. (currently amended) A method as recited in claim ~~2~~1, further comprising a step for selectively displaying the user's progress.

50. (currently amended) A dynamic continual improvement educational system comprising:

a computer ~~device-system~~ having a development module, an implementation module, an analysis module, and an output device, wherein the output device displays a user interface that enables a user to utilize a design technique for designing an adaptive educational path having a sequence of dynamic educational content for presentation to one or more users, wherein the design technique automatically produces computer readable instructions relating to the dynamic educational content; and

the dynamic educational content designed for presentation to a users, ~~from the output device,~~ wherein the ~~educational content~~ adaptive educational path includes structural components that are graphically ~~linked-associated~~ in a relational order on the user interface, and wherein at least a portion of the dynamic educational content is adaptively sequenced for the user, the adaptive sequencing being ordered based upon a presentation of educational concepts represented by the structural components is automatically adapted to a characteristic of the user and is iteratively presented to the user over an extended period of time to maintain the user's understanding of the educational content.

51. (original) A system as recited in claim 50, wherein the characteristic is at least one of:

- (i) a learning pace of the user;
- (ii) a background of the user;
- (iii) a style of learning of the user; and

(iv) a learning progress of the user.

52. (currently amended) A system as recited in claim 51, ~~further comprising a~~
~~wherein the~~ graphical user interface ~~of the computer device that~~ is configured for use in
assembling activities from the structural components to design the adaptive educational path, and
wherein the interface facilitates the creation of ~~dynamic~~, adaptively sequenced instruction.

53. (currently amended) A system as recited in claim 51, further comprising: ~~a~~
~~second computer~~ device ~~device~~ ~~having a graphical user interface configured to graphically~~
~~design a flow of the structural components for presentation to the user; and a communications~~
~~mechanism coupling the second computer device~~ communicatively coupled to the computer
~~device system~~ and configured to enable an exchange of information between the ~~second~~
computer device and the computer ~~device~~ system.

54. (original) A system as recited in claim 53, wherein the communications
mechanism is a network.

55. (original) A system as recited in claim 54, wherein the network is the internet.

56. (cancelled)

57. (currently amended) A system as recited in claim 53, wherein the graphical user
interface includes a grid on which the adaptive educational path ~~a flow of activities~~ is created by

automatically snapping activity icons to the grid and providing a relationship between the activity icons.

58. (currently amended) A continual improvement educational process comprising:

a development module for designing an adaptive educational path using a user interface and a design technique, wherein the design technique automatically produces computer readable instructions relating to the dynamic educational content without causing a designer to encode the instructions;

dynamic educational content for presentation to a user, wherein the adaptive educational path comprises a sequence of at least some of the dynamic educational content for presentation to the user, wherein aspects of the educational content are graphically associated in a relational order on the user interface, the association capable of being maintained when an aspect of the educational content is moved~~concepts of the educational content are graphically linked in a relational order;~~

an implementation module associated with the development module for selectively implementing the presentation of the educational content to the user, wherein the presentation is automatically adapted to a characteristic of the user, and for iteratively implementing at least a portion of the presentation to the user over an extended period of time to maintain the user's understanding of the educational content; and

an analysis module associated with the implementation module for determining the learning pace of the user and the user's understanding of the educational content.

59. (original) A continual improvement educational process as recited in claim 58, wherein the characteristic is at least one of:

- (i) a learning pace of the user;
- (ii) a background of the user;

- (iii) a style of learning of the user; and
- (iv) a learning progress of the user.

60. (original) A continual improvement educational process as recited in claim 59, further comprising an implementation fidelity module associated with the implementation module for:

ensuring genuine fidelity of the presentation of the educational content; and
measuring and encouraging fidelity to system-determined guidelines for learners, tutors, and administrators who interact with and contribute to a learning experience.

61. (currently amended) A computer program product for implementing within a computer system a method for providing a dynamic continual improvement educational environment, the computer program product comprising:

a computer readable medium encoded with computer executable code ~~for providing computer program code means~~ utilized to implement the method, ~~wherein the computer program code means is comprised of executable code for implementing the steps for the method comprising:~~

receiving input through a design technique to display an adaptive educational path on a user interface, the adaptive educational path having a sequence of dynamic educational content for presentation to a user, wherein the design technique automatically produces computer readable instructions relating to the dynamic educational content, and wherein aspects of the educational content are associated in a relational order, the association capable of being maintained when an aspect of the educational content is moved ~~from an educational content designer to design dynamic educational content for presentation to a user, wherein concepts of the educational content are graphically linked in a relational order;~~

adaptively sequencing selectively implementing ~~the presentation of the educational content on one or more an~~ output devices to the user, wherein the presentation is automatically adapted to a characteristic of the user; and

iteratively implementing at least a portion of the presentation to the user over an extended period of time to maintain the user's understanding of the educational content.

62. (original) A computer program product as recited in claim 61, wherein the characteristic is at least one of:

- (i) a learning pace of the user;
- (ii) a background of the user;
- (iii) a style of learning of the user; and
- (iv) a learning progress of the user.

63. (original) A computer program product as recited in claim 62, wherein the step for iteratively implementing at least a portion of the presentation to the user over an extended period of time comprises a step for automatically providing a systematic spaced review of the educational content to the user based on the user's performance, including the user's accuracy and speed in understanding the educational content.

64. (cancelled)

65. (currently amended) A computer program product as recited in claim 62, wherein the association further comprising computer program code means comprised of executable code for implementing a step for linking is between available components of the educational content based on specific properties of the available components.

66. (cancelled)

67. (currently amended) A computer program product as recited in claim 62, wherein

~~the adaptive education path further comprising computer program code means comprised of executable code for implementing a step for graphically providing and associating~~ provides a flow of activities for selective presentation to the user to teach a particular educational lesson.

68. (currently amended) A computer program product as recited in claim 67, wherein the ~~step for graphically providing and associating a flow of activities~~ are for selective presentation to the user comprises automatically snapping snapped as activity icons to a grid.

69. (currently amended) A computer program product as recited in claim 68, wherein the method further comprises~~further comprising computer program code means comprised of executable code for implementing a step for~~, upon receiving input to move an activity icon within the flow of activities, automatically and graphically maintaining relationships with other activities branching the activity icon that is moved.

70. (currently amended) A computer program product as recited in claim 62, wherein the method further comprising~~computer program code means comprised of executable code for implementing steps for~~ comprises:

executing automated tests on components to ensure that the components function as designed; and
diagnose any errors in the components.